Pest Update (July 18, 2012)

Vol. 10, no. 19

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insects from other states. If you live outside of South Dakota and have a question, instead please send a digital picture of the pest or problem. **Walnut samples may not be sent in from any location – please provide a picture!**

Available on the net at:
http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx

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Plant development

The smoketrees (*Cotinus*) are still in full bloom in Brookings, a little ahead of schedule. This is one of our few summer-blooming shrubs and the appearance of the "smoky" flowers never fails to generate some calls from folks wondering what is the name of this plant with the smoky appearance.

Current concerns

The "growing" story is the wide-spread drought that is intensifying across much of South Dakota. While it was a nice winter for people, relatively warm and dry, it was tough on trees and most came into spring already under considerable moisture stress. The dry spring and now a hot, dry summer has turned the moderate moisture stress to severe for many trees and shrubs.

The most common symptoms at this time for moisture stress are leaves that are turning a lighter green than is typical for the species. Affected leaves also are showing brown and crisp margins and often the browning is occurring between the veins. Some trees in the southeast are already having the leaves curl and fall, a symptom of severe stress. Eventually trees showing severe moisture stress will begin to dieback.

Evergreen foliage on drought-stressed trees, particularly seedlings, is turning yellow to almost purple at the tips of the needles. Some of the older needles on drought-stressed trees, needles that formed three to five years ago, are beginning to drop prematurely.

There is not much that can be done at this time other than water. This is particularly important for new planting, whether they are seedlings in a new windbreak or a tree just planted in a yard. A seedling is going to need between a pint and quart of water per day while a newly planted tree will need about 2 to 3 gallons per day at this time. Most young tree belts are probably not receiving anywhere close to this amount and I suspect there will be a lot of replanting next spring.

Established trees will not need daily watering but still require weekly watering to survive this dry, hot summer. A 2-inch diameter tree (measured at 6-inches above the ground) should be receiving about 20 gallons of water a week and this is best applied slowly with a soaker hose placed near the tree. Tree roots typically extend out as far as the tree is tall but the critical watering zone is a

distance out about 2/3's the height. As an example, if the tree is about 24 feet tall, the watering should occur within 16 feet of the trunk.

Dieback and death of seedlings planted this spring is becoming a common occurrence this summer. The most common symptoms are failure to break bud or the leaves partially opened then dried up and died. While these symptoms can occur on any seedling tree if it is not being watered this summer, the symptom pattern is mostly being reported on dogwoods, hackberries, hawthorns, honeylocust and oaks. These are all trees and shrubs that perform poorly if planted out bare-root into high temperatures, low humidity and low precipitation – the prevailing weather this spring. These plants have a difficult transition from a bare-root plant being kept in cool or frozen state with high humidity and then being planted in hot, dry conditions. Hackberries, honeylocust, hawthorns and oaks usually will perform better if "sweated" in the spring (a procedure outlined in earlier Updates) Dogwood while not requiring sweating also requires warm, humid conditions to begin growing. Since this is a "shock" problem, not a watering problem, I have even seen belts where the watering has been diligently performed affected.

Many of these young trees are still green beneath the bark but the buds are dry and there is little to no root growth. I suspect we are going to see many replants next spring due to the hot weather we had during and following planting.

We are losing some seedling trees to heat injury. The threshold for injury to seedlings is about 115^{o}F, a threshold we are easily excessing on bare soils and those covered with fabric. Southern states have long noted injury at the stem where it meets the soils and I have seen this occurring in South Dakota during hot, dry summers. Seedlings that have been girdled by the heat often will have the roots alive but every part of the plant above the girdle is wilted and dead.

E-samples

I received a picture, and later from another source a sample, of a webworm on cotoneaster. This is the leaf crumpler (*Acrobasis indigenella*) an insect I have been collecting in the region for about 30 years. This insect feeds on a wide range of Roseaceae shrubs and trees including apples and cherries but has seemed to find a "home" in urban and windbreaks on hedge cotoneaster. The

adult moths are just about finished flying at this time and the eggs have been laid on the undersides of the leaves. The eggs will hatch by the beginning of August and the young larvae will feed on the upper surface of the leaves gradually devouring the entire leaf, except the midrib, as it enters the later instars. The insect also forms a case around itself for hibernation during the winter and resumes feeding in the spring. The silken case is probably what people notice the most, particularly during the winter when these "globs" of darken dried leaves, silk and frass (insect poop) are very noticeable. The insect rarely removes enough leaves to harm the shrub.

There is another insect, the true webworm, *A. raciell*a, that is more of a problem on the rockspray cotoneaster, a plant not common on the Northern Plains, and occurs most often in western states.

Leaf blotch on buckeyes is also putting out its annual appearance. I usually receive a few calls and samples about this disease about the middle of the summer as it is a common occurrence on buckeyes and horsechestnuts. The disease, caused by the fungus *Guignardia aesculi*, results in reddish brown blotches on the leaves that often have a yellowish margin. The blotches continue to expand as the season progresses with the entire leaf often becoming brown by late summer/early autumn and dropping prematurely. The disease is easy to confuse with scorch, particularly this hot, dry summer but tiny black specks of pycnidia may be seen with a hand lens though they are not as easily seen or found this summer. Scorch is usually more common on the sunnier, windy side of the tree while blotch will be found throughout the tree. Probably the best means of separating the two leaf problems is that leaf blotch occurs in the leaf, which scorch is often limited to the margins of the leaf.

Apple scab samples are also still coming in and most, like this one from Lemmon, are also showing symptoms of the drought. The apple scab infection occurred during the spring – when we did have a little cool, moist weather – and the infection does not really begin to show symptoms until now. The control time period

was several months ago beginning when the buds were first beginning to open and no fungicide spray will correct the damage now. However while these infected leaves will begin to fall soon, the trees should still be watered to prevent further dieback and decline.

Samples received

Beadle County **Ponderosa pine shoots breaking off**

The terminal submitted for sampling had a small gall near the base and gall rust will frequently result in the breakage of the shoot. However, break point was below the gall and I am not sure if the gall is the only, or most important, reason for the shoot breakage you are seeing in the trees. If the planting is near Huron, I will plan a stop to see what else is occurring.

Jones County **Bumps on a hackberry leaf**

The galls on the hackberry are due to the hackberry nipplegall maker, a small psyllid (an insect) that looks like a miniature cicada. The insect overwinters on the bark and then moves to the leaves to lay eggs. After the eggs hatch the nymphs feed on the leaves and these galls form around them. The galls are unsightly and often result in some of the leaves falling prematurely but they do not really harm the tree – just make it look ugly. There is no effective control of this insect.